

REMARKS

Claims 1-19 are currently pending in the applications. Claims 2, 18, and 19 have been canceled. Claims 1, 3, 12, and 13 have been amended. Applicant respectfully requests reconsideration of the pending claims in view of the following remarks.

The Examiner objected to Claims 2-5 due to informalities. Applicants have amended Claims 2-5 to address the informalities, and respectfully request that this objection be withdrawn.

The Examiner rejected Claims 1-8 and 12-17 under 35 U.S.C. § 102 as being anticipated by U.S. Patent Application Publication No. 2002/0186572 ("Nishida").

Nishida does not disclose the subject matter of amended independent Claim 1. More specifically, Nishida does not disclose a switched-mode power supply wherein the timing unit comprises a control capacitor, and that the turn-off time of the primary-side switch can be adjusted by the charging current of the control capacitor. Rather, Nishida discloses a switching power supply 1 includes a transformer T having a primary winding N1, a secondary winding N2, and a feedback winding N3. The power supply 1 also includes a switch Q1 and a control circuit 4 for controlling the switch Q1. The control circuit 4 includes a plurality of components for determining when the switch Q1 turns on and off. The control circuit 4 does not include a single control capacitor that adjusts the turn-off time of the switch Q1 based on the charging current of that control capacitor. The control circuit 4 requires a much more complex arrangement of components to control the on and off time of the switch Q1.

The problem underlying the present invention is to provide a switch mode power supply that allows an improved control characteristic and an enhanced flexibility regarding the operational parameters with reduced complexity of the circuit. The present invention is based on the idea that by means of a time control unit which is coupled to the primary-side switch so that the time duration of an off time of the primary-side switch can be adjusted within one switching cycle, a low switching frequency can be retained when the load is low. Thus, an exact voltage control and different output current characteristics can be achieved.

Moreover, the switch mode power supply according to the present invention is using only a few inexpensive components and has the advantage of low-cost construction and, apart from that, also the advantage of a low open circuit input power.

For at least the reasons discussed above, Nishida does not disclose the subject matter of Claim 1. Accordingly, independent Claim 1 is allowable. Claims 3-17 depend from Claim 1, and, are therefore, allowable for at least the reasons Claim 1 is allowable.

The Examiner rejected Claims 1 and 9-11 under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 4,208,705 ("Hosoya").

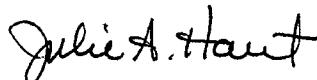
Hosoya does not disclose the subject matter of amended independent Claim 1. More specifically, Hosoya does not disclose a switched-mode power supply wherein the timing unit comprises a control capacitor, and that the turn-off time of the primary-side switch can be adjusted by the charging current of the control capacitor. Rather, Hosoya discloses a switching regulated power supply apparatus. Similar to the circuit of Nishida, Hosoya does not include a single control capacitor that adjusts the turn-off time of the switch Q1 based on the charging current of that control capacitor. The control circuit 6 requires a much more complex arrangement of components to control the on and off time of the switch Q1.

For at least the reasons discussed above, Hosoya does not disclose the subject matter of Claim 1. Accordingly, independent Claim 1 is allowable. Claims 3-17 depend from Claim 1, and, are therefore, allowable for at least the reasons Claim 1 is allowable.

CONCLUSION

In view of the foregoing, allowance of Claims 1 and 3-17 is respectfully requested. The undersigned is available for telephone consultation during normal business hours.

Respectfully submitted,



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